

### **REMARKS**

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 13, 14, 27, and 39-50 have been cancelled.

New claims 51-53 have been added.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-12, 26, 28-38, and 51-53 are now pending in this application.

#### **Priority under 35 U.S.C. § 119**

The Office Action does not acknowledge receipt of the copies of the priority documents in the parent application. Applicants respectfully request acknowledgment of receipt of the priority documents.

#### **Double Patenting**

Claims 1-14 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 6,787,491. Attached is a Terminal Disclaimer. Withdrawal of this rejection is respectfully requested.

#### **Rejection under 35 U.S.C. § 103**

Claims 1-14, 26-30, 32-36, 38-43, and 45-49 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,071,699 (hereafter "Pappas et al.") in view of U.S. Patent No. 3,986,530 (hereafter "Maekawa"). This rejection is respectfully traversed.

Amended claim 1 recites a woven composite fabric, said fabric comprising metal elements and polymer elements, said metal elements comprising at least one of metal wires, bundles of metal wires, metal strands comprising metal wires and metal cords comprising

metal wires, wherein said polymer elements are polymer tapes, and wherein said metal wires have a diameter between 0.1 mm and 0.4 mm. Support for the amended language of claim 1 can be found in Applicant's disclosure. For example, support for the amended language can be found on page 10, lines 28-31, of Applicant's specification.

Pappas et al. discloses a fabric that includes warp yarns 21, weft yarns 22, and conductive fibers 23 interwoven with the warp threads. See Pappas et al. at col. 3, lines 37-42. However, Pappas et al. does not disclose or suggest "metal elements comprising at least one of metal wires, bundles of metal wires, metal strands comprising metal wires and metal cords comprising metal wires." Pappas et al. discloses that the conductive fibers 23 "may be any conductive staple fiber such as stainless steel or copper, as disclosed in U.S. Pat. No. 4,431,316." (emphasis added) See Pappas et al. at col. 4, lines 5-7. U.S. Patent No. 4,431,316 discusses metal staple fibers and their usefulness in antistatic discharge applications in col. 2, lines 39-43. The Office states on page 4 of the Office Action that the Office considers the staple fibers of Pappas et al. to be "metal strands." However, claim 1 has been amended to recite "metal strands comprising metal wires and metal cords comprising metal wires."

A copy of "Terminology of man-made fibres" for The International Bureau for the Standardization of Man-Made Fibres was attached as Exhibit A to the response filed on August 3, 2006. According to the definition of "staple fiber" provided in chapter 3, page 42, a staple fiber is a fiber with a limited length that is spinnable into a yarn. To determine the definition of "wire," one must consult the definition of "steel filament," according to page 47. Page 43 defines "steel filament" as a fibre used as an individual element in a strand or cord, while page 32 defines "filament" as a fibre of very great length, which is considered continuous. Therefore, one of ordinary skill in the art would not have considered staple fibers with a limited length to be alternatives to "metal wires, bundles of metal wires, metal strands comprising metal wires and metal cords comprising metal wires," as recited in claim 1, because one of ordinary skill would understand fibers with a limited length to be different from filaments of very great lengths.

Maekawa discloses a cloth containing electroless metal plated staple fibers and metallic filaments. See Maekawa at col. 2, lines 9-18. Maekawa discloses that the metallic

filaments have a diameter of 50 to 8 microns, that metallic filaments with a diameter greater than 50 microns would not possess good antistatic properties, and that metallic filaments with a diameter smaller than 8 microns would present manufacturing difficulties. Therefore, Maekawa does not disclose or suggest a woven composite fabric, "wherein said metal wires have a diameter between 0.1 mm and 0.4 mm."

It would not have been obvious to one of ordinary skill to combine the teachings of Pappas et al. and Maekawa to provide the woven composite fabric of amended claim 1. A basic requirement of a *prima facie* case of obviousness is that a prior art reference, or prior art references when combined, must teach or suggest all of the claim limitations. See M.P.E.P. §§ 2143, 2143.03. Pappas et al. and Maekawa, alone or in combination, fail to disclose a woven composite fabric comprising metal elements that comprise "at least one of metal wires, bundles of metal wires, metal strands comprising metal wires and metal cords comprising metal wires," wherein "said metal wires have a diameter between 0.1 mm and 0.4 mm." Therefore, Pappas et al. and Maekawa fail to disclose or suggest all of the features of amended claim 1. Furthermore, it would not have been obvious to modify the metallic filament diameter disclosed by Maekawa because of the difficulties encountered outside of this diameter range, as taught by Maekawa.

Amended claim 26 recites a woven composite fabric, said fabric comprising metal elements and polymer elements, said metal elements comprising at least one of metal wires, bundles of metal wires, metal strands comprising metal wires and metal cords comprising metal wires, wherein said polymer elements are polymer tapes having an essentially rectangular cross-section having a thickness, and wherein a distance between circumferences of two adjacent metal elements is substantially equal to the thickness of the polymer tape. Support for the amended language of claim 26 can be found in Applicant's disclosure. For example, support for the amended language can be found on page 10, lines 28-31; page 4, lines 27-30; and page 14, lines 16-18, of Applicant's specification.

Pappas et al. discloses flat polymer tapes with a thickness of 0.5 to 2 mils (about 12.7 to about 50.8  $\mu\text{m}$ ) and a width of 50 to 250 mils (about 1270 to about 6350  $\mu\text{m}$ ). See Pappas et al. at col. 3, lines 9-13. Pappas et al. discloses a conductive fiber spacing of one fiber per 0.5 to 2 inches of fabric length of width (one fiber per about 1.27 cm to 5.08 cm). See Pappas

et al. at col. 3, lines 48-53. However, as noted on page 4 of the Office Action, Pappas et al. fails to disclose or suggest the metal element spacing recited in claim 26. Furthermore, Pappas et al. fails to disclose or suggest “metal wires, bundles of metal wires, metal strands comprising metal wires and metal cords comprising metal wires,” as discussed above.

Maekawa discloses a thread density of 0.1 to 1.0 thread per cm width of cloth. See Maekawa at col. 3, line 50, to col. 4, line 5. Maekawa teaches that a thread density outside of this range would fail to provide the intended objects of the cloth of Maekawa. See Maekawa at col. 4, lines 14-26.

It would not have been obvious to one of ordinary skill to combine the teachings of Pappas et al. and Maekawa to provide the woven composite fabric of claim 26 because Pappas et al. and Maekawa, alone or in combination, fail to disclose or suggest “a distance between circumferences of two adjacent metal elements is substantially equal to the thickness of the polymer tape,” as recited by claim 26. The metal elements provided by the combination of Pappas et al. and Maekawa would not have the spacing recited by claim 26. Taking the polymer tape thickness of 50.8  $\mu\text{m}$  disclosed by Pappas et al., the metallic filament diameter of 50 microns disclosed by Maekawa (because Pappas et al. discloses staple fibers), and the spacing of 1.0 thread per cm width of cloth disclosed by Maekawa (which is a higher density than that disclosed by Pappas et al.), a spacing of 0.990 cm between the circumferences of adjacent metallic filaments would result. This spacing of 0.990 cm is not substantially equal to a polymer tape thickness of 50.8  $\mu\text{m}$ . Furthermore, it would not have been obvious to alter the spacing or the metallic filament diameter to provide the metal element spacing recited by claim 26 because Maekawa teaches against a diameter or spacing outside of the ranges disclosed by Maekawa. Therefore, the combination of Pappas et al. and Maekawa fails to disclose or suggest all of the features of amended claim 26.

For at least the reasons discussed above, withdrawal of this rejection is respectfully requested.

**Allowable Subject Matter**

Applicant gratefully acknowledges the indication that claims 31, 37, 44, and 50 contain allowable subject matter.

**New Claims**

New claims 51 and 52 depend from claim 1 and new claim 53 depends from claim 26. Applicant submits that claims 51-53 are allowable over the prior art for at least the reasons discussed above.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

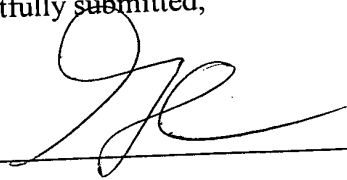
The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date

2/2/07

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